

## **AMENDMENTS TO THE CLAIMS**

This listing of claims replaces all prior versions and listings of the claims in this application:

1. - 48. (Cancelled)

49. (Currently Amended) An implantable orthopaedic prosthesis, comprising:  
a laminar composite bearing having (i) a radiation crosslinked, free-radical quenched layer of polyethylene having ~~uniform crosslinking throughout~~ and an articulating surface defined in a first side thereof; and (ii) a non-crosslinked layer of polyethylene molded to a second, opposite side of said crosslinked, free-radical quenched layer of polyethylene at a melt-fused interface, wherein non-crosslinked polyethylene of the non-crosslinked layer of polyethylene is fused to crosslinked, free-radical quenched polyethylene of the crosslinked layer of polyethylene at the melt-fused interface.

50. (Currently Amended) The implantable orthopaedic prosthesis of claim 49, wherein said radiation crosslinked, free-radical quenched layer of polyethylene and said non-crosslinked layer of polyethylene are compression molded to one another.

51. (Cancelled)

52. (Previously Presented) The implantable orthopaedic prosthesis of claim 49, wherein:

    said non-crosslinked layer of polyethylene has an engaging surface defined therein which is adapted to be secured to an acetabulum of a patient.

53. (Withdrawn) The implantable bearing of claim 49, wherein:  
    said crosslinked layer of polymer has an articulating surface defined therein, and  
    said non-crosslinked layer of polymer has an engaging surface defined therein which is adapted to be secured to a glenoid of a patient.

54. (Withdrawn) The implantable bearing of claim 49, wherein:  
said crosslinked layer of polymer has an articulating surface defined therein, and  
said non-crosslinked layer of polymer has an engaging surface defined therein  
which is adapted to be secured to a tibia of a patient.

55. - 124. (Cancelled)

125. (Currently Amended) An implantable orthopaedic prosthesis, comprising:  
a laminar composite bearing having (i) a first layer of polyethylene having an  
articulating surface defined in a first side thereof; and (ii) a second layer of polyethylene molded  
to a second, opposite side of said first layer of polyethylene at a melt-fused interface, wherein (a)  
said first layer of polyethylene is radiation crosslinked to a ~~uniform~~ first degree and quenched of  
free radicals (b) said second layer of polyethylene is radiation crosslinked to a second degree that  
is different than said first degree and quenched of free radicals, and (c) polyethylene crosslinked  
to the second degree of the second layer of polyethylene is fused to polyethylene crosslinked to  
the first degree of the first layer of polyethylene at the melt-fused interface.

126. (Previously Presented) The implantable orthopaedic prosthesis of claim 125,  
wherein said second degree is less than said first degree.

127. (Cancelled)

128. (Previously Presented) The implantable orthopaedic prosthesis of claim  
125, wherein said first layer of polyethylene and said second layer of polyethylene are  
compression molded to one another.

129. (Previously Presented) The implantable orthopaedic prosthesis of claim 125,  
wherein:

    said second layer of polyethylene has an engaging surface defined therein which  
    is adapted to be secured to an acetabulum of a patient.

130. (Withdrawn) The implantable bearing of claim 125, wherein:  
said first layer of polyethylene has an articulating surface defined therein, and  
said second layer of polyethylene has an engaging surface defined therein which  
is adapted to be secured to a glenoid of a patient.

131. (Withdrawn) The implantable bearing of claim 125, wherein:  
said first layer of polyethylene has an articulating surface defined therein, and  
said second layer of polyethylene has an engaging surface defined therein which  
is adapted to be implanted into a tibia of a patient.

132. Cancelled.

133. (New) The implantable orthopaedic prosthesis of claim 49, wherein said  
radiation crosslinked, free-radical quenched layer of polyethylene comprises a radiation  
crosslinked, annealed layer of polyethylene.

134. (New) The implantable orthopaedic prosthesis of claim 125, wherein said  
first layer of polyethylene and said second layer of polyethylene comprise crosslinked, annealed  
polyethylene.